

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Cancelled)

2. (Currently Amended) An isolated and purified DNA fragment, which comprises the nucleotide sequence given in SEQ ID NO: 14, ~~or a part thereof having similar characteristics~~, or a sequence showing at least 84 % homology to said sequence.

3. (Currently Amended) A recombinant DNA, which comprises said the DNA fragment of claim 2, ~~or a part thereof having similar characteristics~~, cloned in a the plasmid replicating in *Streptomyces* or in *E. coli*.

4. (Previously Presented) The recombinant DNA according to claim 3, which is the plasmid pSgs4 deposited in *S. lividans* strain TK24/pSgs4 with the accession number DSM 12998.

5. (Previously Presented) The recombinant DNA according to claim 3, which is the plasmid pSgc5 deposited in *E. coli* strain XLIBlueMRF'/pSgc5 with the accession number DSM 12999.

6-8. (Cancelled)

9. (Currently Amended) A process for increasing aclacinomycin production in a bacterial host, comprising transferring the DNA fragment of claim 1 or 2 into a *Streptomyces* host producing aclacinomycins or intermediates thereof, cultivating the recombinant strain obtained, and isolating the aclacinomycins produced.

10. (Previously Presented) The process according to claim 9, wherein the *Streptomyces* host is a *Streptomyces galilaeus* host.

11. (Previously Presented) The process according to claim 10, wherein the *Streptomyces galilaeus* host is a mutant strain derived from *S. galilaeus* ATCC 31615.

12. (Currently Amended) A process for producing metabolites polyketides, comprising transferring the DNA fragment of claim 1 or 2 into a

Streptomyces host producing polyketide compounds, cultivating the recombinant strain obtained, and isolating the compounds produced.

13. (Currently Amended) A process for producing anthracycline metabolites, comprising transferring the DNA fragment according to claim 1 or 2 into a *Streptomyces peucetius* host producing anthracyclines or intermediates thereof, cultivating the recombinant strain obtained, and isolating the compounds produced.

14. (Previously Amended) The process according to claim 9, wherein the DNA fragment includes an activator, a dehydratase, an oxidoreductase, a DTP-glucose 4,6-dehydratase, a glycosyl transferase, an isomerase, an aklaviketone reductase, a polyketide assembler, a cyclase, an aminomethylase, a glucose- 1-phosphate thymidylyl transferase, and an aminotransferase.

15. (Currently Amended) The process according to claim 13, 12, wherein the DNA fragment includes an activator, a dehydratase, an oxidoreductase, a DTP-glucose 4,6-dehydratase, a glycosyl transferase, an isomerase, an aklaviketone reductase, a polyketide assembler, a cyclase, an aminomethylase, a glucose- 1-phosphate thymidylyl transferase, and an aminotransferase.

Serial No. 09/830,994

Amendment Dated July 8, 2004

Reply to Office Action dated February 11, 2004

16. (New) An isolated polynucleotide comprising a nucleic acid sequence selected from the group consisting of the nucleotide sequence included in the plasmid pSgs4 deposited in *S. lividans* strain TK24/pSgs4 with the accession number DSM 12998 and the nucleotide sequence included in the plasmid pSgc5 deposited in *E. coli* strain XL1BlueMRF'/pSgc5 with the accession number DSM 12999.

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Petition for Extension of Time

Applicant hereby requests that the period to take action in the above-captioned application be extended by two months pursuant to the provisions of 37 C.F.R. 1.136(a).

A check in the amount of \$210.00 is submitted herewith in payment of the required extension fee. This amount is believed to be correct, however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No.: 029381.49884. A duplicate copy of this letter is attached.